REMARKS

In the Office Action of September 29, 2006, claims 31-33 were rejected under 35 U.S.C. §103(a) as being unpatentable over Gakhar et al. U.S. Patent No. 5,555,788 ("Gakhar"); and claims 26-28, 30, and 34 were allowed.

The rejected claims 31-33 were actually allowed in the Office Action of March 27, 2006, and such allowance was later withdrawn based on further consideration of Gakhar, which was already of record. Applicant respectfully traverses the rejection of claim 31-33 based on Gakhar and request the reinstatement of the allowance of claims 31-33.

In accordance with claim 31, a circular saw blade comprises a planar saw body and a cutting edge encircling the planar saw body and defining a rotational direction for cutting. The planar saw body has a planar annular section having oppositely facing parallel surfaces and having a substantially uniform axial thickness between the oppositely facing parallel surfaces. The planar annular section defines a plurality of cavities therein, and each one of the cavities is sufficient to receive liquid therein for transport.

In further accordance with claim 31, the cumulative opening area of the plurality of cavities equals approximately six percent of a cutting triangle of the circular saw blade. In a feature of the recited circular saw blade, as recited in claim 32, the plurality of cavities consists of three cavities, and the opening area of each cavity equals approximately two percent of the area of the cutting triangle of the circular saw blade. In another feature as recited in claim 33, the plurality of cavities comprise only three cavities angularly spaced at 120 degrees relative to one another about a center of said saw body.

Independent claim 31 stands rejected as being unpatentable over Gakhar. In setting forth this rejection, the Office Action acknowledges that Gakhar fails to disclose that "the cumulative opening area of the plurality of cavities equals approximately six percent...of an area of a cutting triangle of the blade." The Office Action attempts to address this deficiency in the disclosure of Gakhar by reliance upon *In re Aller*, asserting:

> It would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the cavities in the size range of approximately six percent...of the cutting triangle, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Here the sizes of the cavities disclosed by [Gakhar] are proportionately small relative to the size of the cutting circle, and one of ordinary skill in the art would have considered it obvious to have made the area of the cavities of the range claimed, to minimize any flexure of the saw blade (the larger the opening, inherently the more flexible the saw will be, having less material to stiffen the blade).

In response, Applicant submits that Gakhar fails to provide any teaching, suggestion, or motivation that would lead one having ordinary skill in the art to modify a saw blade disclosed in Gakhar such that "the cumulative opening area of the plurality of cavities equals approximately six percent of a cutting triangle of the circular saw blade." Even accepting the position for which *In re Aller* is cited in the Office Action that "discovering the optimum or workable ranges involves only routine skill in the art," Gakhar fails to disclose or teach the necessary conditions under which the ordinary artisan would have arrived at a saw blade having the recited limitation. The proposition of *In re Aller* applies only to finding the optimum value of a disclosed range, the optimum value being related to the disclosed function or disclosed desired result.

As noted in the Office Action, varying the cumulative opening area of the plurality of cavities affects the flexure of the saw blade; however, there is no disclosed nexus or connection between flexure and liquid transport. That which is optimum—or even workable—with respect to blade flexure has not been shown in Gakhar to correspond to that which is optimum or even workable with respect to liquid transport.

As recited in claim 31, each cavity is sufficient to receive liquid therein for transport, and Applicant has determined that what is workable—if not optimum—is achieved when the cumulative opening area of the plurality of cavities equals approximately six percent of the cutting triangle of the circular saw blade. As set forth in the present application, *this determination was made by Applicant through experimentation with respect to liquid transport via the cavities.*[1] The rejection set forth in the present Office Action is critically deficient because it fails to show how optimizing the cumulative area for purposes of blade flexure results in the recited 6% cumulative area.

Indeed, Gakhar certainly does not teach or suggest liquid transport utilizing the cavities of the blades in Gakhar. In stark contrast, the disclosure of Gakhar relates to a circular saw blade with improved stability, the blade having a plurality of radial expansion slots, preferably having a "J"-shape and, optionally, having a plurality of arched body slots. A preselected number of expansion slots and a preselected number of body slots are critically placed on the blade, thereby avoiding concentrations of thermal stresses during use, and, at

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[1] At para. [0026] of the published application, it states: "It has been determined by experiment that the total opening area of the cavities 30 preferably should minimally approximate 6% of a 'cutting triangle' of the circular saw blade 10."

the same time, maintaining the minimum number of expansion and body slots, so that the vibrational performance characteristics of the blade are maintained. Gakhar fails to disclose or teach that the body slots and/or expansion slots should serve any other function whatsoever apart from avoiding concentration of thermal stresses in order to maintain the vibrational performance characteristics of the blade, and Gakhar undeniably fails to disclose or suggest that the body slots and/or expansion slots should be sufficient to receive liquid therein for transport.

Similarly, Gakhar fails to provide any teaching or motivation that would lead the ordinary artisan to modify any blade of Gakhar such that "the plurality of cavities consists of three cavities, and wherein the opening area of each cavity equals approximately two percent of the area of the cutting triangle of the circular saw blade," as recited in claim 32. No support exists for any finding that this limitation is optimum—let alone workable—with respect to flexure for any blade disclosed in Gakhar. Moreover, six different embodiments are depicted in the figures of Gakhar and, as can be seen from these figures, the number of both expansion slots and body slots varies and the number is not limited to three as found in claims 32 and 33 of the present application (note the respective "consisting of" and "only" language of claims 32 and 33).

As Gakhar fails to provide the necessary conditions under which the ordinary artisan would have arrived at a saw blade having the recited limitations of claims 31-33, Applicant submits that these claims are not rendered unpatentable over Gakhar and that these claims stand in condition for allowance. Accordingly, Applicant respectfully requests that the present application be passed to issue.

Furthermore, it is respectfully requested that the Examiner contact the undersigned if any further action is deemed necessary by the Examiner in order to gain allowance of the present application, and if such further action may be accomplished through an Examiner's amendment or otherwise.

Respectfully submitted,
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